

## Environmental Protection Agency

## Pt. 60, App. A-5, Meth. 15A

12.5 Concentration of Generated Recovery Gas.

$$C_{RG} = \frac{(C_{cos})(Q_{cos})}{Q_{cos} + Q_{N_2}} \quad \text{Eq. 15A-4}$$

12.6 Recovery Efficiency for the System Performance Check.

$$R = \frac{C_{RG(m)}}{C_{RG(act)}} \times 100 \quad \text{Eq. 15A-5}$$

### 13.0 Method Performance

13.1 Analytical Range. The lower detectable limit is 0.1 ppmv when sampling at 2 lpm for 3 hours or 0.3 ppmv when sampling at 2 lpm for 1 hour. The upper concentration limit of the method exceeds concentrations of reduced sulfur compounds generally encountered in sulfur recovery plants.

13.2 Precision. Relative standard deviations of 2.8 and 6.9 percent have been obtained when sampling a stream with a reduced sulfur compound concentration of 41 ppmv as SO<sub>2</sub> for 1 and 3 hours, respectively.

13.3 Bias. No analytical bias has been identified. However, results obtained with this method are likely to contain a positive bias relative to emission regulations due to the presence of nonregulated sulfur compounds (that are present in petroleum) in the

emissions. The magnitude of this bias varies accordingly, and has not been quantified.

### 14.0 Pollution Prevention. [Reserved]

### 15.0 Waste Management. [Reserved]

### 16.0 References

1. American Society for Testing and Materials Annual Book of ASTM Standards. Part 31: Water, Atmospheric Analysis. Philadelphia, Pennsylvania. 1974. pp. 40-42.
2. Blosser, R.O., H.S. Oglesby, and A.K. Jain. A Study of Alternate SO<sub>2</sub> Scrubber Designs Used for TRS Monitoring. National Council of the Paper Industry for Air and Stream Improvement, Inc., New York, New York. Special Report 77-05. July 1977.
3. Curtis, F., and G.D. McAlister. Development and Evaluation of an Oxidation/Method 6 TRS Emission Sampling Procedure. Emission Measurement Branch, Emission Standards and Engineering Division, U.S. Environmental Protection Agency, Research Triangle Park, North Carolina. February 1980.
4. Gellman, I. A Laboratory and Field Study of Reduced Sulfur Sampling and Monitoring Systems. National Council of the Paper Industry for Air and Stream Improvement, Inc., New York, New York. Atmospheric Quality Improvement Technical Bulletin No. 81. October 1975.
5. Margeson, J.H., et al. A Manual Method for TRS Determination. Journal of Air Pollution Control Association. 35:1280-1286. December 1985.